technology for approval of Central Government in the Department of Bio-Technology, out of which two projects pertain to the year 2004.

(b) These two proposals relate to (i) Demonstration & transfer of technology for bio-pesticides and (ii) Display, demonstration & training on Blue Green Algae (BGA) Bio-fertilizer technology.

(c) The proposals have been considered by the Department of bio-Technology and have not been found viable for financial support. The decision has been conveyed to the Council of Science and Technology, UP., Department of Science & Technology, U.P. Government.

Heavy rains in Mumbai

2619. SHRI PRAMOD MAHAJAN: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether it is a fact that Meteorological Department failed in pre warning the people of Mumbai about likely heavy rains highest in a day in the history of India; and

(b) if so, the steps Government are taking to make weather forecast in India more trust worthy?

THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI KAPIL SIBAL): (a) The Regional Meteorological Center, Mumbai initially issued forecast for rather heavy (4-6 cm) to heavy (7-12 cm) rainfall on 25.7.2005. The same forecast was repeated on 26.7.2005 at 0600 hrs. (for Akashwani) and 1300 hrs. (General forecast). The forecast was subsequently upgraded to heavy (7-12 cm) to very heavy (above 12 cm) rainfall at 17.30 hrs. on 26.7.2005. Hon'ble Chief Minister of Maharashtra was apprised of the likelyhood of heavy to very heavy rain in a meeting convened by him at 1600 hrs. on 26.7.2005.

Actual rainfall recorded up to 1430 hrs. on 26.7.2005 at Santa Cruz was only 1.9 cm. however, between 1430 hrs. to 1730 hrs. there was an unprecedented steep increase in rainfall and rainfall measurement at Santa Cruz at 1730 hrs. became 40 cm. which ultimately rose up to 94.4 cm. by 0830 hrs. on 27.7.2005. This was a highly localized rainfall event confined within a radius of about 20-25 km. over central and north Mumbai and took place within a short time period. Present level of scientific knowledge of the atmosphere, even at global level, cannot predict such localized rainfall

magnitude as on the same day Colaba observatory in South Mumbai recorded only about 7.3 cm of rainfall at 0830 hrs. on 27.7.2005.

(b) The India Meteorological department is in the process of establishing a denser network of observatories and Doppler Radars with capability of capturing the small scale details of rain bearing weather systems. These observational facilities in conjunction with the advanced regional predictions systems that are being developed will help in understanding and forecasting localized rainfall events.

Institute of Seismological Research in'Gujar&t

2620. SHRI LEKHRAJ BACHANI: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether the Central Government have taken any measure to establish an Institute for Seismological Research in Gujarat/all over the country to give precautions to the public of devastating earthquake/Tsunami waves near the coastal areas which would in future be a R&D Institution of international repute;

(b) if so, the decision on the proposal by the Central Government; and

(c) the provisions of funds for the project?

THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI KAPIL SIBAL): (a) and (b) Yes, Sir. The Gujarat State Government has informed that the State has established an Institute of Seismological Research (ISR) in Gujarat. The Institute is mandated for R&D in the field of earthquakes. However, at present there is no scientific technique available anywhere in the world to forecast the occurrence of earthquake in terms of space, time and magnitude. For Tsunami, a separate proposal has been prepared to set up a Tsunami Warning System in Indian Ocean. The Department of Science & Technology and Department of Ocean Development are the lead agencies in this endeavour.

(c) Out of the World Bank loan received by the State Government under Gujarat Emergency Earthquake Reconstruction Project, an amount of Rs. 30.00 crores has been allocated for the Institute. The Department of Science & Technology (DST) is providing technical and project based financial support to ISR. Recently an amount of Rs. 259.69 lakhs has been sanctioned to ISR for the project entitled "Seismological Research